

1 CLAIMS:

2 What is claimed is:

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4 1. An apparatus for managing a plurality of flows of network information, each flow
5 being identified by a flow identifier (FID), the flows passing out of the apparatus via a
6 plurality of output ports, each flow being stored as one or more cells, each cell being
7 stored in a buffer, each buffer being identified by a buffer identifier (BID), the
8 apparatus comprising:

9 a port calendar, the port calendar identifying for servicing one of a plurality of
10 output ports;

11 a shaper, the shaper shaping a subset of the plurality of flows and outputting
12 a plurality of FIDs, each FID output by the shaper representing a cell of a FID
13 shaped by the shaper;

14 a scheduler that selects one of a plurality of classes, each class being a class
15 of a plurality of flows, a plurality of such classes being associated with each output
16 port, the scheduler selecting one of the flows in a class associated with the selected
17 output port, the scheduler outputting an FID that identifies the one selected flow, the
18 FID output by the scheduler representing a cell of a FID scheduled by the scheduler;
19 and

20 a dequeue mechanism that retrieves a BID in response to receiving an FID,
21 wherein if the shaper outputs a FID associated with the output port selected by the
22 port calendar then the dequeue mechanism retrieves a BID associated with the FID
23 output by the shaper, and wherein if the shaper does not output an FID associated
24 with the selected output port and if the scheduler outputs a FID associated with the
25 selected output port then the dequeue mechanism retrieves a BID associated with
26 the FID output by the scheduler, wherein the port calendar, shaper, scheduler and
27 dequeue mechanism are all part of a single integrated circuit.

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29 2. The integrated circuit of Claim 1, wherein the apparatus is configurable so that a
30 single flow is both shaped by the shaper and is also scheduled by the scheduler.

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